

Algebra 2 GHP  
Unit 3 Test Review

Name \_\_\_\_\_

**Directions: Give the domain and range of each relation and determine if it is a function.**

$\{(2, 3)(-1, 5)(3, 0)\}$ <i>Domain :</i>  1) <i>Range :</i>  <i>Function?</i>
$\{(-3, 4)(0, 5)(-3, 1)\}$ <i>Domain :</i>  2) <i>Range :</i>  <i>Function?</i>
$\{(-4, 5)( -4 , 1)(-2,  -3 ), ( -2 , -3)\}$ <i>Domain :</i>  3) <i>Range :</i>  <i>Function?</i>
$\{( -1 , 7)(1, -5)(-6, 1), (6,  -1 )\}$ <i>Domain :</i>  4) <i>Range :</i>  <i>Function?</i>

**Directions: Give the domain of each function.**

$f(x) = x^5 - 5$  5) <i>Domain :</i>	$g(x) = \frac{5}{x + 7}$  6) <i>Domain :</i>	$h(x) = \frac{3}{x^4 + 8}$  7) <i>Domain :</i>
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$F(x) = \sqrt{3x - 2}$ 8) Domain :	$f(x) = \frac{1}{x^2 + 6x + 8}$ 9) Domain :	$G(x) = \frac{6}{(x - 5)(x + 4)}$ 10) Domain :
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**Directions: Write a rule for each relation and state the domain and range.**

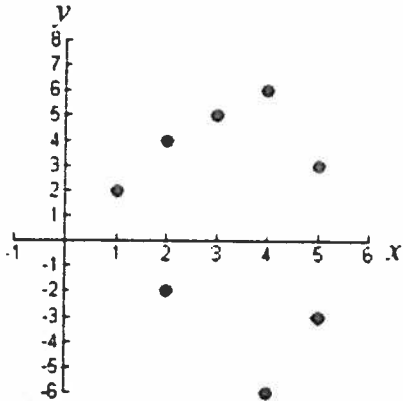
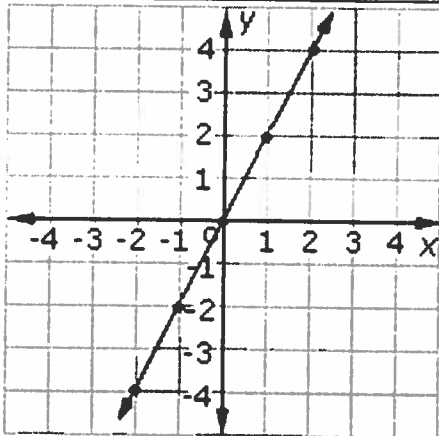
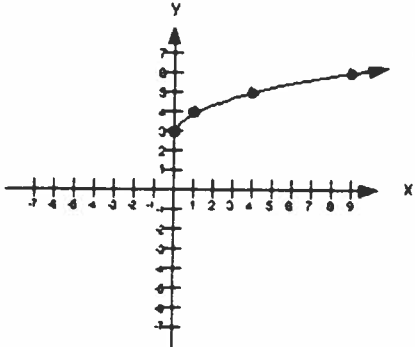
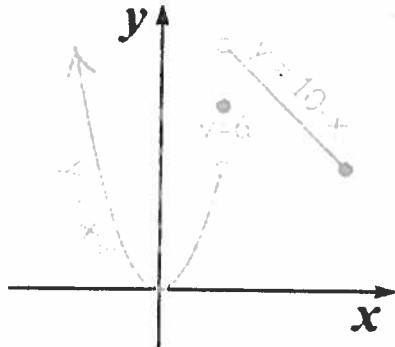
$\{(1, 3), (-2, 6), (0, 0), (4, 12)\}$ Rule :  11) Domain :  Range :
$\{(5, 0), (2, -3), (-3, -8), (12, 7)\}$ Rule :  12) Domain :  Range :
$\{(1, 4), (2, 7), (3, 10), (4, 13)\}$ Rule :  13) Domain :  Range :

**Directions: Evaluate each function for the given values.**

14) $g(x) = x + 5$	a) $g(0) =$	b) $g(-3) =$	c) $g(-1) =$	d) $g(4) =$
15) $f(x) = 3 - 4x$	a) $f(1) =$	b) $f(-1) =$	c) $f(0) =$	d) $f(-3) =$
16) $G(x) = -x^2 + 2$	a) $G(1) =$	b) $G(-1) =$	c) $G(3) =$	d) $G(-3) =$

17) $H(x) =  5 - x $	a) $H(0) =$	b) $H(-1) =$	c) $H(1) =$	d) $H(3) =$
18) $F(x) = \frac{6}{x^2 + 3}$	a) $F(0) =$	b) $F(1) =$	c) $F(2) =$	d) $F(3) =$

**Directions: Determine if each graph is a function.**

<p>19)</p> 	<p>20)</p> 
<p>21)</p> 	<p>22)</p> 

**Directions: Given the function and its domain, find the range of the function.**

<p>23) <math>f(x) = 5 - 4x</math> Domain : <math>\{-2, -1, 0, 1, 2\}</math> Range :</p>	<p>24) <math>g(x) = x^2 - 3</math> Domain : <math>\{-3, 0, 3\}</math> Range :</p>
<p>25) <math>h(x) = x^2 - 4x</math> Domain : <math>\{-3, -2, -1, 0, 1, 2, 3\}</math> Range :</p>	<p>26) <math>f(x) = x^2 - 3x + 2</math> Domain : <math>\{0, 1, 2, 3\}</math> Range :</p>

**Directions: Find the indicated values.**

$f(x) = x^2 - 3$	$g(x) = 2 - 3x$
$f[g(1)] =$ <b>27)</b> $g[f(1)] =$	$f[g(-1)] =$ <b>28)</b> $g[f(-1)] =$
$f[g(2)] =$ <b>29)</b> $g[f(2)] =$	$f[g(-2)] =$ <b>30)</b> $g[f(-2)] =$
<b>31)</b> $f[g(x)] =$	<b>32)</b> $g[f(x)] =$

**Directions: Perform the operations of the given functions.**

$f(x) = 3x - 4$	$g(x) = x + 5$
$(f + g)(x) =$ <b>33)</b>	$(f - g)(x) =$ <b>34)</b>
$(f \cdot g)(x) =$ <b>35)</b>	$\left(\frac{f}{g}\right)(x) =$ <b>36)</b>
$(f + g)(-2) =$ <b>37)</b>	$(f - g)(1) =$ <b>38)</b>